INTRODUCTION

The Environmental Assessment (EA) is a site specific analysis of potential environmental impacts that could result with the implementation of a proposed action. The EA assists the Agency in project planning and insuring compliance with the National Environmental Protection Act (NEPA) and making a determination as to whether any "significant" impacts could result from proposed actions. This EA has been prepared for the Swiftwater Resource Area's proposed **YONCALLA WEST Regeneration Harvest**. This proposal is in conformance with the *Final - Roseburg District Proposed Resources Management Plan / Environmental Impact Statement* (PRMP/EIS) dated October 1994 and its associated *Roseburg District Record of Decision and Resources Management Plan* (RMP) dated June 2, 1995. The RMP is supported by and consistent with the *Final Supplemental Environmental Impact Statement on Management of Habitat for Late-Successional and Old Growth Forest Related Species Within the Range of the Northern Spotted Owl* (FSEIS); otherwise known as the "Northwest Forest Plan" (NFP) dated Feb. 1994 and its associated *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl* (ROD) and *Standards and Guidelines for Management of Habitat for Late-Successional and Old Growth Related Species Within the Range of the Northern Spotted Owl* (S&G's) dated April 13, 1994. The ROD establishes management direction consisting of ". . . extensive standards and guidelines including land allocations, that comprise a comprehensive ecosystem management strategy" (ROD pg. 1).

This project was formerly analyzed in EA No. OR-104-97-05 and sold at auction on September 30, 1997. This sale has never been awarded due to Appeal by Umpqua Watersheds, Inc. On April 28, 1998, Judge Rothstein of the U.S. District Court, Western District of Washington, issued an order in the case of Pacific Coast Federation of Fisherman's Association et al, vs the National Marine Fisheries Service (NMFS), et al, which indicates the BLM is procedurally out compliance with Section 7(a)(2) of the Endangered Species Act (ESA) due to a determination that the site-specific Biological Opinions (BO) of June 18, 1997 and July 22, 1997 are invalid. This analysis is needed to more clearly document project consistency with Watershed Analysis (WA), the Aquatic Conservation Strategy objectives, and NMFS' March 18, 1997 plan-level Biological Opinion.

The project described in this EA will undergo formal public review. After the completion of public review a "Finding of No Significant Impact" (FONSI) would be signed as appropriate. A signed FONSI would find that no "significant" environmental impact (effect) would occur with the implementation of the proposed actions beyond those already addressed in the FSEIS when the project design features specified in this EA are followed. "Significance" has a strict NEPA definition and is found in regulation 40 CFR 1508.27. The FONSI documents the application of this definition of significance to the proposed action.

A Revised Decision Document would be completed after public review to document the decision and reflect any changes as the result of public review. The Revised Decision Document would document the decision to award this sold sale. This notice will be placed in *The News Review* and constitute a decision document with authority to proceed with the proposed action.

I. PURPOSE OF AND NEED FOR ACTION

This section provides a general overview of the proposed action. Included are: the need for the action, a general description and background of the proposal, and the issues to be analyzed, as well as issues eliminated from detailed analysis in this EA.

A. Need for Action

The FSEIS and the RMP respond to dual needs: ".. the need for a healthy forest ecosystem with habitat that will support populations of native species and includes protection for riparian areas and waters. ... and the need for a sustainable supply of timber and other forest products that will help maintain the stability of local and regional economies ..." (RMP pg. 15).

B. Description of the Proposal

The proposal is to harvest timber in the Elk Creek Watershed located in Section 33, T22S R5W, W.M. (see maps, Appendix A through C). The proposed project area is approximately two road miles north of Yoncalla and 28 air miles north of Roseburg, Oregon. Approximately 50 acres were analyzed for potential harvest activities. This project is within the "Matrix" Land Use Allocation and in what the RMP further classifies as the General Forest Management Area (GFMA); i.e. lands available for timber harvest. The Matrix land allocation is one of seven allocations specified in the ROD. "Stands in the matrix can be managed for timber and other commodity production, and to perform an important role in maintaining biodiversity" (S&G, pg. B-6) by providing for biological legacies (snags, large woody debris and retention trees) that bridge past and future forests. New temporary road construction and renovation or improvement of existing roads would also occur. The proposal is not in a Key Watershed. Section II (pg. 4) of this EA provides a more detailed description of the Proposed Action Alternative.

C. Background (Watershed Analysis)

The Yoncalla West Regeneration Harvest project occurs within the Devore Mountain Drainage of the Yoncalla subwatershed. This subwatershed is within the Elk Creek watershed which covers approximately 187,234 acres. (293 square miles). The East Elk WA and the Elk Creek 5th Field WA (2nd iteration) were used in this analysis and are available for public review at the Roseburg District office. Current landscape patterns include natural stands that are the result of fire, managed stands established following timber harvest, and non-forested agricultural and pasture lands. Three major highways and several small towns are located within the watershed.

The ROD requires that late-successional forests be retained in watersheds that comprise 15% or less late-successional forests on Federal lands in fifth field watersheds, i.e. watersheds between 20 and 200 square miles (ROD, pg. C-44). Any timber stands greater than approximately 80 years of age are considered late-successional habitat (ROD, pg. B-2). For the Elk Creek 5th field watershed, current forest inventories show that of the 44,935 acres of Federal ownership, approximately 18,811 acres (41.9%) are late-successional forests (Elk Creek 5th Field Watershed 2nd Iteration, pg. 2, Table 2).

Within the Yoncalla subwatershed 94% is privately owned. Of the remaining land administered by the BLM (6% or 1097 acres), 491 acres (East Elk WA; pg 3-12, Table 3-3) have timber stands that are 80 years or older. It was estimated that approximately 146 acres (East Elk WA, pg 1-20, Table 1-4) of these stands are outside any type of reserve or withdrawn area and thus available for regeneration harvests. The project as proposed would remove approximately 26 acres of these stands from within the Yoncalla subwatershed.

On page 8-2 of the East Elk WA the following recommendation was made, "In the Yoncalla subwatershed, across which very little dispersal is expected to occur because of the extensive agricultural lands, stands including Mid Seral could be harvested in regeneration-type harvest regimes without adversely affecting dispersal for spotted owls and other large vertebrates. Volume gained by timber sales of this type would help to offset the negative effect of harvesting in late-seral stands elsewhere."

D. Objectives

1. Practice ecosystem management as outlined in the ROD and RMP.
   - **S** avoid damage to riparian ecosystems and meet the objectives of the "Aquatic Conservation Strategy" (ROD, pg. B-11; RMP pg. 19)
   - **S** "Provide habitat for a variety of organisms associated with both late successional and younger forests." (RMP pg. 33)
   - **S** maintain "ecologically valuable structural components such as down logs, snags and large trees" (RMP pg. 33)
   - **S** improve and/or maintain soil productivity (RMP pg. 35)
   - **S** "Maintain or enhance the fisheries potential of the streams ..." (RMP pg. 40)
   - **S** protect, manage and conserve all special status and Supplemental Environmental Impact Statement special attention species habitat (RMP pg. 41)

2. "Produce a sustainable supply of timber and other forest commodities" (RMP pg. 33) and meet District ASQ goals.

E. Decisions to be Made to Meet Proposal Objectives

1. The Decision Maker (the Swiftwater Area Manager) will need to decide if this analysis supports the signing of a FONSI.

2. Consultation with the National Marine Fisheries Service (NMFS) will need to be completed for the Cutthroat trout and Coho salmon. This project may have to be altered as the result of this consultation (See section IV para. A).

F. Issues Considered but Eliminated from Detailed Analysis

The following concerns were identified by the Interdisciplinary (ID) Team during project design. They were eliminated from further analysis because: (1) project design features (PDF's) were included in the Proposed Action Alternative to lessen the anticipated environmental impacts of specific activities, or (2) the concern was not considered as a key issue warranting detailed analysis, or (3) the impacts are within the limits addressed in the ROD/RMP. Section II, paragraph C (pg. 5) provides a list of specific PDF's incorporated into the preferred alternative to deal with these issues. These issues are summarized in Appendix D ("Scoping Summary") and addressed the Specialist's Reports in Appendix F.

1. Botany Concerns
   a. Legacy for lichens
   b. Scotch broom infestation

2. Engineering
   Subsoiling the spur in unit 33A could cause drainage problems

3. Fisheries
   Roads not up to RMP standards

4. Hydrology
   a. Road drainage problems
   b. Potentially unstable stream headwall areas

5. Soils
   a. Unstable area in northeast corner of unit 33A
   b. Potentially unstable areas in headwalls in the northwest of portion of unit 33A
   c. Potentially unstable area in the southeast corner of unit 33B
   d. Category 1 soils on the north slope of unit 33A

6. Wildlife
   Presence of red tree voles

"Critical Elements of the Human Environment" is a list of elements specified in BLM Handbook H-1790-1 that must be considered in all EA's. These are elements of the human environment subject to requirements specified in statute, regulation, or Executive Order. These elements are as follows:

1. Air Quality
2. Areas of Critical Environmental Concern (ACEC)
3. Cultural Resources
4. Environmental Justice
5. Farm Lands (prime or unique)
6. Floodplain
7. Native American Religious Concerns
8. Threatened or Endangered Species
9. Wastes, Hazardous or Solid
10. Water Quality, Drinking / Ground
11. Wetlands / Riparian Zones
12. Wild and Scenic Rivers
13. Wilderness

These resources or values (except for item #8) were not identified as issues to be analyzed because: (1) the resource or value does not exist in the analysis area, (2) no site specific impacts were identified, or (3) the impacts were considered to be sufficiently mitigated through adherence to the S&G's therefore eliminating the element as an issue of concern. These issues are also briefly discussed in Appendix E ("Critical Elements of the Human Environment"). Item #8 is addressed in the Specialist's Reports (Appendix F).

G. Issues to be Analyzed

The following concerns were identified by the ID Team as having sufficient concern to warrant more detailed analysis and will be addressed in section IV, "Environmental Consequences" (pg. 9-10) as key issues.

1. Slope Stability
2. Cumulative Impacts to Fisheries.

II. ALTERNATIVES INCLUDING THE PREFERRED ALTERNATIVE

This section describes the No Action and Proposed Action alternatives, as well as any alternatives that were considered but eliminated from detailed study. As such these alternatives represent a range of reasonable potential actions. This section also discusses specific design features that would be implemented under the action alternatives. All action alternatives were designed to be in conformance with the RMP.

A. The No Action Alternative

There would be no entry for the harvesting of timber within the bounds of the project area under this alternative.

B. The Action Alternatives

The ID Team considered two action alternatives:

Alternative 2 - NFP sale including bringing the haul road up to RMP standards

Alternative 3 - Identical to alternative 2 plus additional mitigation (road decommissioning) outside the project area to meet NMFS consultation (Proposed Action)

Implementation of the Proposed Action Alternative would result in the harvest of approximately 1120 CCF (hundred cubic feet) of the Roseburg District's FY 1997 harvest commitment of 7.0 MCF (thousand cubic feet or 45 MMBF(million board feet)). Additional timber could potentially be included as a modification to this project. Such additions would be limited to removal of individual trees or small groups of trees that are dead, injured, or that constitute a safety hazard, and trees that are needed to facilitate the proposed action. This could include possible removal of guyline and tailhold trees, trees damaged in logging and incidental salvage. Harvest activities would occur on two units for 26 acres of regeneration and less than one acre of road right-of-way clearcut. Other activities would include: temporary road construction, road renovation and improvement, road decommissioning, subsoiling of previously compacted skid trails, site preparation with fire (slash burning) and replanting with young seedlings.

Temporary **road construction** would occur on approximately 0.1 miles. Approximately 1.5 miles of government would have **road renovation** (restoring the road back to its original design) and 0.2 miles of government road would have **road improvement** (improving the road beyond its original design). This would consist of installing or maintaining drainage structures (culverts and ditches), reshaping the road surface and surfacing with crushed rock. **Road decommissioning** would be accomplished on approximately 0.7 miles of permanent road.

Timber harvest would utilize the regeneration harvest technique of "modified even aged management primarily employing the modified reserve seed tree system" (RMP, pg. 150). The regeneration harvest is designed to open the forest canopy to allow the re-establishment of a new forest stand with early seral stage vegetation (even aged), however the traditional silvicultural systems are modified to include biological legacies in the form of retention of a certain amount of older aged green trees and snags (reserve trees), and coarse woody debris (CWD) which are trees or portions of trees that have fallen or have been cut and left in the woods for present and future wildlife habitat components (RMP, pg. 146).

The proposed action would require a mix of skyline cable (approximately 19 acres or 73%), and ground based (tractor) logging (approximately seven acres or 27%). **Firewood cutting and salvaging** of logging debris (slash) could occur in landing cull decks. Specific stipulations would be addressed in the permit.

Subsoiling would occur on previously compacted and new skid trails.

The **prescribed burning of slash** would occur in the proposed units to prepare the sites for tree planting. Approximately 25 acres would be burned (20 ac. broadcast and 5 ac. hand pile and burn). **Fire trails** would be constructed by hand around the perimeters of the unit before it is burned.

C. Project Design Features as part of the Proposed Action

This section describes the project design features (PDF's) which would be incorporated in the implementation of the action alternatives. PDF's are site specific measures, restrictions, requirements or structures included in the design of a project to minimize adverse environmental impacts. These are listed in the RMP (Appendix D, pg. 129) as "Best Management Practices" (BMP's) and in the ROD as "Standards and Guidelines" (S&G's). BMP's are measures designed to protect water quality and soil productivity. S&G's are "... the rules and limits governing actions, and the principles specifying the environmental conditions or levels to be achieved and maintained." (ROD, pg. A-6) The following PDF's are included with the proposed action:

1. **To meet the components of the "Aquatic Conservation Strategy (ACS)" (S&G's, pg. B-12):**

a. **Riparian Reserves** (Component #1) would be established. Riparian Reserves consist of the lands incorporating permanently flowing (perennial) and seasonally flowing (intermittent) streams, the extent of unstable and potentially unstable areas, and wetlands. The ROD (C-30) and RMP (pg. 24) specify Riparian Reserve widths equal to the height of two site potential trees on each side of fish bearing streams and one site potential tree on each side of perennial or intermittent nonfish bearing streams. Data has been analyzed from District inventory plots and the height of a site potential tree for the Elk Creek watershed has been determined to be the equivalent of 200 ft. slope distance. Therefore, Riparian Reserve boundaries would be approximately 200 ft. slope distance from the edge of nonfish bearing streams and 400 ft. from fish bearing streams in the project area (East Elk WA, pg. 1-4). There is one fish-bearing stream in the project area adjacent to unit 33A.

1) Riparian habitat would be protected from logging damage by directionally felling trees within 100' of streams and yarding logs away from or parallel to the streams (i.e. logs would not be yarded across streams).

2) No logging or road building would take place within the Riparian Reserves.

b. This project is not in a **Key (Tier 1) Watershed** (ACS Component #2).

c. **Watershed Analysis** (ACS Component #3) as been completed for this watershed (see pg. 2).

d. **Watershed Restoration** (ACS Component #4) in this watershed would be accomplished primarily through timber sale related projects. This would include road decommissioning, road maintenance and Riparian Reserve treatments in second growth stands. This particular project includes the full **decommissioning** of a portion of road # 23-5-13.0A (0.1 mi.) and road # 23-4-6.0H (0.6 mi.). Full decommissioning would consist of "closing and stabilizing . . . to eliminate . . . storm damage and the need for maintenance" (ROD, pg. B-31)

2. **To minimize the loss of soil productivity (i.e. limiting erosion, reducing soil compaction, protecting slope stability and protecting the duff layer):**
a. **Measures to limit erosion and sedimentation from roads** would consist of: (1) Maintaining or improving existing roads (Road No. 22-5-33.0, 33.2 and 33.3) to fix drainage and erosion problems. This would consist of maintaining existing culverts, installing additional culverts, and surfacing the road with crushed rock. (2) Building, using and decommissioning temporary roads in the same operating season (i.e. no over-wintering of bare subgrade). When logging is completed, the roadbed would be subsoiled, water barred, blocked and seeded with native species or a sterile hybrid mix depending on availability. (3) Restricting road renovation and log hauling on unsurfaced roads to the dry season (normally May 15 to Oct. 15), however, operations would be suspended during periods of heavy precipitation. This season could be adjusted if conditions are such that no environmental damage would occur (ex. the dry season extending beyond Oct. 15).

b. **Measures to limit soil erosion and sedimentation from logging** would consist of: (1) requiring skyline yarding where cable logging is specified. This method limits ground disturbance by requiring partial suspension during yarding (i.e., the use of a logging system that "suspends" the front end of the log during in-haul to the landing, thereby lessening the "plowing" action that disturbs the soil). In some limited, isolated areas partial suspension may not be physically possible due to terrain or lateral yarding. Excessive soil furrowing would be hand waterbarred. Dry season logging would be required on all units. (2) Ground based logging, including road right-of-way clearing, would be limited to the dry season (May 15 to Oct. 15), however, operations would be suspended during periods of heavy precipitation if resource damage would occur. This season could be adjusted if conditions are such that no resource damage would occur (i.e., the dry season extending beyond Oct. 15). (3) Water bars would be constructed on all skid trails and fire trails that might route or channel water.

c. **Measures to limit soil compaction** (RMP, pg. 37) would consist of: (1) limiting ground based logging to the dry season as described above (2) Confining ground based activities to designated skid trails as identified in an approved logging plan. New trails would be limited to slopes less than 35% and with skidtrail spacings averaging at least 150 feet apart. Machines would be limited in size and track width to reduce compaction and trail width. Existing skid trails would be used wherever possible. (3) Subsoiling of decommissioned roads, temporary spur roads and skidtrails with a winged subsoiler to mitigate compaction damage. Subsoiling is a practice that ameliorates soil compaction and improves water infiltration by pulling a device known as a "winged subsoiler" with a crawler tractor. Existing skidtrails, from previous entries, would also be tilled where practical (e.g., tilling saturated or very rocky soils or skid trails with advanced reproduction would not benefit soil productivity and therefore would not be practical). The Authorized Officer (Contract Administrator) may decide that additional isolated minor ground based logging would be necessary. Such proposals may be subject to Interdisciplinary review.

d. **Measures to protect the duff layer** (RMP, pg. 37) would consist of burning of slash during the late fall to mid-spring season when the soil and duff layer (soil surface layer of fine organic material) moisture levels are high and the large CWD has not dried. This practice would protect the soil duff layer and the CWD from being totally consumed by fire. The CWD reserved according to ROD guidelines would also be a source of organic material that can become incorporated into the soil structure (See para. 3b, below). The northwest slope of unit 33A has category 1 soils (soils that are sensitive to burning). Slash would be hand piled and burned to lessen impacts to the soil, while providing adequate site preparation for tree planting. A one acre steep ridge nose on the southeast slope would not be burned due category 1 soils.

e. **Measures to protect slope stability** would consist of grouping retention trees in areas identified by the soil scientist in Unit 33B. These areas have some stability concerns but not enough to warrant Riparian Reserve status. The added root strength of the extra trees would help maintain stability. Areas that could potentially impact the meeting of ACS objectives were dropped from the project (see Appendix D).

3. **To provide for wildlife:**

a. Future nesting and roosting habitat for cavity dwellers would be provided by reserving most existing hard or soft snags (at least 20" in diameter and 20 ft. in height) sufficient to meet the population needs of 40% of potential population (RMP pg. 64). This has been determined to be 1.2 snags per acre. Where this quantity is lacking, additional green trees would be reserved for future snag recruitment. Note: Any snag deemed as hazardous to worker safety could be felled at the discretion of the operator and the sales administrator. Such trees would be reserved and left in place as CWD.

b. Wildlife habitat values would be maintained through the retention of six to eight large (greater than 20") green conifer trees per acre and occasional hardwoods as a biological legacy (RMP Appendix E, pg. 150). At least 120 linear feet of CWD per acre (at least 16" in diameter and 16 ft. in length) would be preserved for habitat of organisms that require this ecological niche (ROD C-40, para. B). Where CWD is lacking in the above quantities, extra green trees would be reserved for future CWD recruitment (RMP pg. 65).

4. **To protect air quality:**

The federal Clean Air Act is designed to reduce air pollution, protect human health and preserve the Nation's air resources. The Oregon Department of Environmental Quality is responsible for implementing the Federal Clean Air Act, and the resulting Oregon Smoke Management Plan which requires the Oregon State Department of Forestry to manage the amount of smoke released into the airshed as the result of slash and field burning. All slash burning would be conducted under the requirements of the Oregon Smoke Management Plan and done in a manner consistent with the requirements of the Federal Clean Air Act. NOTE: the key points noted in the FSEIS page 3&4-100 will not be addressed in this EA but in the appropriate "Prescribed Burn Plan".

5. **To protect and enhance stand diversity:**

a. All tree species currently represented in the stand would continue to be represented in the stand after the harvest. Large "wolf" trees (large, full crowned, limby trees) would be retained for non-vascular plant legacy attributes.

b. Snags and CWD would be reserved as described in paragraph 3 above.

c. Stipulations would be placed in the contract to halt operations if vascular or non-vascular Special Status Plants are found during harvest or road construction operations; adequate time would then be allowed to determine adequate protective measures before operations resume.

6. **To prevent accidental spills of petroleum products or other hazardous materials:**
Hazardous materials (particularly petroleum products) would be stored in durable containers and located so that any accidental spill would be contained and not drain into riparian areas. All landing trash and logging materials would be removed. Accidental spills or discovery of the dumping of any hazardous materials would be reported to the Sale Administrator and the procedures outlined in the "Roseburg District Hazardous Materials (HAZMAT) Emergency Response Contingency Plan" would be followed.

7. **To prevent the spread of noxious weeds:**
Logging equipment would be cleaned prior to entry on BLM lands to remove weed seeds (BLM Manual 9015 - Integrated Weed Management).

D. Alternatives Considered but Eliminated
There were no other alternatives considered by the ID Team during the formulation of this project.

III. AFFECTED ENVIRONMENT

This section describes the existing environment and forms a baseline for comparison of the affects created by the alternatives under consideration. Appendix F (Background Reports) contains Specialist's Reports with supporting information for this analysis.

This project lies within the Oregon Coast Range Physiographic Province. The affected environment for this province is described in the FSEIS on page 3&4-21.

A. Stand Description
The East Elk WA describes three vegetation zones; western hemlock, grand fir, and interior valley (Hickman 1994). Zones are used to describe such things as potential production capabilities, expected vegetative response following disturbance, and plant communities. The Yoncalla subwatershed is a transition between the interior valley and the grand fir zone.

Douglas-fir is the predominant species within the analysis area because of fire. Douglas-fir is the predominant conifer species in proposed unit 33A with only a few scattered grand fir and incense-cedar on the east aspect. In proposed unit 33B the only conifer seen was Douglas-fir. Annual rings on stumps in a recent adjacent clear cut indicate that most of the trees in these stands are about 120 years old. There are some scattered large Douglas-fir that appear older than this, mostly in 33B and on the east aspect of 33A. There is a very small hardwood component (madrone) in the stands. Ground cover consists largely of ocean spray, hazel, Oregon grape, salal, sword fern, and Himalayan blackberry. There is very little coarse woody debris in either of these stands. There are a few large trees that have recently (within the last 10 years) fallen over. Most of the canopy is greater than 70 percent closed. In some areas the canopy is nearly 100 percent closed, and the low light level has excluded almost all plants except scattered sword fern. Some small openings have recently occurred where trees have fallen over and tops have broken out of dominant trees.

B. General Site Description

The **topography** ranges from gentle ridge tops and benches to very steep sideslopes of the second order streams and headwalls of the first order streams. Elevation within the proposed project area ranges from about 600 to 950 feet. The benchy nature of this topography is probably the result of past landslides. The proposed units are of multiple aspects. The **streams** within the project area drain into Yoncalla Creek, a major tributary to Elk Creek.

The **climate** is wet, characterized by mild winters and cool, relatively dry summers. Precipitation in the form of rain averages about 50 inches a year and occurs mostly in the winter. The summer months are typically dry and soil moisture can become limiting, affecting plant growth and seedling survival. There is typically a long, frost free season, with temperatures averaging about 70 degrees F in the summer and 40 degrees F in the winter.

The **soils** of this project have developed over the sandstones and siltstones of the Flournoy Formation. The gentle to moderately sloping ridge tops and benches typically have moderately deep to very deep (20 to greater than 60 inches), well drained soils with silt loam surfaces and silty clay loam and silty clay subsoils. Typical soil series are Bellpine, Windygap and Bateman. On the steep and very steep slopes moderately deep and deep, well drained soils are most typical but shallow soils (less than 20 inches) in headwalls and some ridge noses are major components. Very deep soils are also major components on the lower portion of these slopes. Typical soil series are Littlesand, Atring and Rosehaven. Rock outcrops are only a minor component in a few small areas.

C. Affected Resources

Botanical - Noxious weeds are present along many of the roadways, and in some of the very young stands, within the immediate vicinity of the proposed project area. No vascular Special Status Plants (SSP) were observed in the proposed project areas during summer surveys conducted in 1996.

Cultural Resources - No known cultural resources exist in the project area.

Fisheries and Hydrology - The main stream in section 33 near the proposed action supports coastal cutthroat trout. No other fish species were sampled in this stream during fish surveys conducted in the summer of 1996. ODF&W has done a stream habitat survey for Yoncalla Creek. Two of the three reaches surveyed rated as "poor", and one reach rated as "fair". Lack of large woody debris (LWD) and high amounts of sediment are the limiting habitat factors. The road density in the Yoncalla Creek watershed is 6.5 mi/mi^2. This is the highest of the subwatersheds covered in the East Elk WA. The roads leading into the proposed action (33.0 and 33.2 roads) currently do not meet RMP standards. There is an inadequate number of drainage features on the roads which may cause the ditches to drain directly into the streams, thereby altering the drainage density and associated peak flows.

Wildlife - The Northern spotted owl was surveyed for and not found on the project area. The closest owl site is the Halo Hill site (MS #: 2385) and it is located over two miles from the project area. Surveys for marbled murrelets occurred in 1995 and 1996 and there were no detections in the proposed project area (see protocol and definitions developed by Ralph *et al*. 1993 and 1994). Big game as well as a variety of neotropical birds can be found throughout the drainage. The project area was surveyed for red-tree voles during the winter, and a total of three populations were identified during the survey.

IV. ENVIRONMENTAL CONSEQUENCES

This section forms the scientific and analytical basis for the comparisons of the alternatives. The probable consequences (impacts, effects) each alternative would have on selected resources are described. This section is organized by the alternatives and the effects on resources by the key issues identified in section I paragraph G as well as the direct (effects caused by the action and occur at the same place and time), indirect (effects caused by the action and occur later in time or farther removed in distance) and cumulative (impacts of the action when added to other past, present and reasonably foreseeable future actions) impacts on the other resource values. The environmental consequences for these resources are more fully analyzed in Appendix F "Background Information" (Analysis File). This Appendix contains Specialist's Reports and the supporting information for this analysis. The EIS and FSEIS analyzes the environmental consequences in a broader and more detailed context. This EA does not attempt to reanalyze all possible impacts that have already been analyzed in these umbrella documents but rather to identify the particular site specific impacts that could reasonably occur. NOTE: The Biological Assessment for the Endangered Species Act consultation contains a detailed analysis of how this project complies with the Aquatic Conservation Strategy Objectives and is contained in Appendix F.

Some irreversible and irretrievable commitment of resources would result from the implementation of this project. An irreversible or irretrievable commitment of resources in the loss of old growth forest, if this area is managed on an 80 to 150 year rotation. Crushed rock from quarries would be committed

to reconstruction of the road system. An irretrievable commitment of the use of fossil fuels in management activities, would result in either of the action alternatives.

A. No Action Alternative:

Key Issue: Slope Stability

The probability of significant landslides in these forested units and resultant water quality impacts would be quite low over the next twenty years. All temporary increases of in-unit erosion and sedimentation would be avoided. Portions of the 22-5-33.0 road are experiencing small cutslope failures, disrupted road drainage and substantial erosion. Under the no action alternative the road would receive occasional maintenance but not the reconstruction including additional culverts as would happen under this timber sale. Total road erosion and sedimentation would be greatest under this alternative.

Key Issue: Cumulative Impacts to Fisheries

Under the no action alternative, no changes in the environmental baseline would occur other than those that result from the natural change of the watershed. Road renovation would not occur. The dirt road in 33B would not be brought to RMP standards (rocked and culverts added). The roads that currently extend the drainage network would continue to do so. There would be no increased cumulative effects to the stream channels due to harvest.

B. Proposed Action Alternative:

Key Issue: Slope Stability

Alternative 2 and 3:

In general watershed analysis of the Flournoy and Tyee formations has consistently revealed slope stability problems associated with timber harvesting on steep (60-75%) to very steep (75-90%) slopes. In-unit failures on these slopes are most often of the shallow translational type and have been most likely to occur in headwalls and concave hollows where enough soil material has accumulated. Less frequently there have been failures on the ridge noses. Some slides upon reaching a stream channel developed into debris torrents which could travel far downstream.

In Unit 33A, two ephemeral (annual scour and deposition lacking) and the upper ephemeral parts of three of the intermittent streams including headwalls were included in the Riparian Reserve status due to slope stability concerns. The probability for substantial slides occurring in these reserve areas over the next twenty year period is considered low. The risk for substantial failures in this harvest area is considered moderate with the project design features of dry season yarding, one end suspension and only hand piling and burning on the steep northwest aspect. The risk of a slide reaching the perennial stream is somewhat lower. The potential for any slides generating into debris torrents along the two second order streams is low.

In Unit 33B, Riparian Reserves were delineated along the four intermittent first order streams. A small clump of retention trees protecting the ground above the scarp of a slipout would give adequate slope stability protection when combined with other project design features.

Slope stability is not a concern for temporary spurs.

Key Issue: Cumulative Impacts to Fisheries

Alternative 2:

With the PDF's mentioned in section II C (pg. 5) there should be no direct negative impacts to the fisheries resources. The issue is the indirect or cumulative impacts to the fisheries resources based on the amount of past disturbance to the watershed. Stream fish populations depend largely on the quality of their habitat (Lewis 1969), which is closely associated with the stream channel characteristics. Stream channel characteristics are determined by the bankfull discharge, which occurs every one to two years (Wolman and Miller 1960). Therefore, any activity that alters the flow regime would have the potential to impact the fisheries resources by altering the stream channel and habitat on which they depend. Alterations to the flow regime have been linked to timber harvest and road building (Chamberlin *et al*. 1991). Alterations to the stream channel may be detectable after as little as 10% of a watershed has been harvested (Dose and Roper 1994). The degree of impacts vary and are based on a host of site specific factors including location of the disturbance, aspect, geology, amount of previous disturbance, the snow zone, and current condition of the channel.

Currently, 3942 acres (21%) in the watershed are less than 30 years old, and 8578 acres (47%) are in agriculture. Stands less than 30 years are considered by NMFS to be the hydrologic equivalent of a clearcut and are used to determine cumulative disturbance over time. Currently 32% of the watershed is in a mid to late seral stage. Based on the WA, it is estimated that about 35% of the watershed was in a mid to late seral stage in the reference condition (1936). Based on the difference of 3% between the reference and current condition of the watershed, it is not anticipated that there would be detectable effects to the fisheries resources from that of the reference condition as a result of this action.

Alternative 3 (Proposed Action):

Under this alternative, the impacts would be similar to Alternative #2. The difference would be the positive benefits to the long term health of the watershed. Road decommissioning may have some short term disturbance. This disturbance should be very minimal, however, as it will be done in the dry season and should not affect proposed or listed fish. There should be long term benefits to the East Elk watershed as a result of this action as the decommissioned roads recover hydrologically and there is a reduction in sediment delivery. The degree of benefits resulting from this alternative are hard, if not impossible, to quantify. The roads that would be decommissioned under this alternative were chosen based on a WA that determined that they were a high priority.

V. CONTACTS, CONSULTATIONS, AND PREPARERS

A. Agencies, Organizations, and Persons Consulted

The Agency is required by law to consult with the following federal and state agencies (40 CFR 1502.25):

1. **Threatened and Endangered Species Section 7 Consultation -** The Endangered Species Act of 1973 requires consultation to ensure that any action that an Agency authorizes, funds or carries out is not likely to jeopardize the existence of any listed species or destroy or adversely modify critical habitat. The required ESA consultation was accomplished with the **US Fish and Wildlife Service** (USF&WS) and the Biological Opinion (BO) was received on June 16, 1997. The BO concluded the proposed action is " . . . not likely to jeopardize the continued existence of the bald eagle, peregrine falcon, spotted owl or murrelet or adversely modify designated critical habitat for spotted owl or murrelets" and an "Incidental Take Statement" was issued. "Incidental Take is any take of listed animal species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency . . . " (BO, pg. 42). The USF&WS has stipulated terms and conditions for the Incidental Take having to do with seasonal restrictions for the northern spotted owl and the marbled murrelet. The Roseburg District's BA for Endangered Species consultation has been submitted to the **National Marine Fisheries Service** (NMFS). The Biological Assessment was a "may effect, likely to adversely affect" for Umpqua River cutthroat trout, Oregon Coast steelhead trout and Oregon Coast coho salmon. A BO has not been received from the NMFS.

2. **Cultural Resources Section 106 Consultation -** Consultation as required under section 106 of the National Historic Preservation Act with the **State Historical Preservation Office** (SHPO) was completed on June 25, 1996 with a "No Effect" determination.

B. Public Notification

1. **Notification** was provided to affected **Tribal Governments** (Confederated Tribes of the Coos, Lower Umpqua and Siuslaw; Grande Ronde; Siletz; and the Cow Creek Band of Umpqua Indians). No comments were received.

2. Six letters were also sent to **adjacent or nearby landowners**. No comments were received.

3. **Outreach letters** were sent to twelve addresses. A single comment was received from Steve Hinton of Oregon Trout who expressed concerns over logging on steep slopes (slope stability) and potential impacts to the fisheries.

4. A 30-day **public comment period** will be established for review of this EA. A Notice Of Availability will be published in the News Review. This EA and its associated documents will be sent to all parties who request them. If the decision is made to implement this project, a notice will be published in the News Review. If the decision is made to implement this project, a notice will be published in the News Review. Notification has been provided to certain State, County and local governments (See Appendix G - Public Contact).

C. List of Preparers

Lyle Andrews	Engineering
Isaac Barner	Cultural Resources
Kevin Cleary	Fuels Management
Dan Couch	Watershed Analysis
Dan Cressy	Soils
Dave Erickson	Recreation / VRM
Dick Greathouse	Project Lead
Al James	Silviculture
Fred Larew	Lands
Jim Luse	EA Coordinator / EA Preparer
Evan Olson	Botany
Trudy Rhoades-Flock	Hydrology
Elijah Waters	Fisheries
Steve Weber	Presale Forester
Joe Witt	Wildlife